# **BIDDER'S PACKAGE**

## **CASCADE COUNTY**

# SOLICITATION FOR BIDS FOR THREE OR MORE 2020 OR NEWER, ALL-WHEEL DRIVE MOTOR GRADER(S)

(Preapproved Models: Caterpillar 160AWD, John Deere 872GP, or Equivalent)

**JULY 2020** 

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#### **INVITATION TO BIDDERS**

NOTICE IS HEREBY GIVEN, that the Cascade County Board of Commissioners will receive sealed bids for the purchase over time of three (3) or more 2020 or newer, diesel powered, articulated frame all-wheel drive motor grader(s). Specifications for the equipment may be obtained by contacting Les Payne, Director, Cascade County Public Works, 279 Vaughn S. Frontage Road, Great Falls, MT 59404; Phone (406) 454-6920.

Bids are due and will be opened on the 31st day of July 2020, at the time of 1:00 o'clock p.m. in the office of the Board of Commissioners, in the Cascade County Courthouse Annex, 325 2<sup>nd</sup> Ave North, Room 111, Great Falls, Montana. No electronic/digital media bids are allowed. Late bids will be returned unopened.

Each bid must be accompanied by a Certified Check, Cashier's Check, or Bid bond payable to Cascade County in the amount of ten percent (10%) of the total amount of the bid for the motor graders without deduction for the value of the possible trade in equipment. The successful bidder shall forfeit to Cascade County their bid security if they fail or refuse to enter into a contract within the time specified. Bid security of unsuccessful bidders shall be returned upon acceptance of the successful bid.

All bids shall remain effective for a period of thirty (30) days from the date of opening. Cascade County reserves the right to consider or reject any and all bids, and further to waive any defects or irregularities. All bidders must use the bid form supplied with the specifications. A contract will be awarded to the lowest and most responsible bidder.

All bidders are expected to be aware of and to abide by all state and federal statues, rules, and regulations governing the solicitation and acceptance of public contracts, including any such statute, rule or regulation relating to non-discrimination.

The Board of Commissioners reserves the right to reject any or all bids, to waive irregularities, or to accept any bid they deem to be in the best interest of Cascade County.

DATED this 15<sup>th</sup> July 2020

Les Payne, Director Cascade County Public Works Department

(Publish July 19<sup>th</sup>, July 22nd, July 26th)

#### GENERAL INFORMATION FOR BIDDERS

- 1. <u>Bid Opening</u>. The Cascade County Commissioners will receive bids from persons or entities capable of supplying three (3) or more 2020 or newer, diesel powered, articulated frame all-wheel drive motor graders as described in the specifications included herein. Bids are due and shall be opened and read aloud at a meeting of the Commissioners to take place on the 31<sup>st</sup> day of July, 2020, at the time of 1:00 o'clock p.m. at the Commissioner's Office, in the Cascade County Courthouse Annex Room 111. All bids must be received no later than the start of the meeting.
- 2. <u>Notice</u>. Notice is being published in the Great Falls Tribune, (a copy of the notice is included with this package) with publication dates of July 19<sup>th</sup>, July 22nd, July 26th. All interested and capable persons or entities are invited to submit bids on the bid form included with this package.
- 3. <u>Bid Security</u>. Pursuant to Section 18-1-201, Montana Code Annotated, the Board of Commissioners must require a bid security. Each bid must be accompanied by security in a form specified below, and in an amount equal to ten percent (10%) of the bid of the bidder, and payable to Cascade County.

According to the above cited statute, bid security is required "as a condition precedent to considering any such bids, as evidence of good faith on the part of the bidder, and as indemnity for the benefit of such public authority against the failure or refusal of any bidder to enter into any written contract that may be awarded upon and following acceptance of (a) bid..." Thus, if a bidder is selected and requested to enter into the contract, and the bidder refuses to enter into the contract, the bid security shall be forfeited in its entirety to Cascade County.

The form of the bid security is specified in Section 18-1202, Montana Code Annotated, as follows;

- "(1) In all cases under 18-1202 (1), the bidder, offeror, or tenderer shall accompany and bid with either:
  - (a) lawful money of the United States;
- (b) a cashier's check, certified check, bank money order, or bank draft, in any case drawn and issued by a federally chartered or state-chartered bank insured by the federal deposit insurance corporation; or
- (c) a bid bond, guaranty bond, or surety bond executed by a surety corporation authorized to do business in the state of Montana. If a financial guaranty bond or surety bond is provided to secure the purchase of indebtedness, the long-term indebtedness of the company executing the financial guaranty bond or surety bond must carry an

investment grade rating of one or more nationally recognized independent rating agencies.

(2) The money or, in lieu of money, the bank instruments or bid bonds, financial guaranty bonds, or surety bonds must be payable directly to the public authority soliciting or advertising for bids."

The successful bidder's bid security shall be returned upon the parties entering into a contract. Also, at such time, the bid security of unsuccessful bidders shall be returned.

4. <u>Contract</u>. The successful bidder will be expected to enter into a contract with Cascade County. The form of the contract is included within this package. However, Cascade County reserves the right to make changes to the contract which do not affect the substantial rights of the parties.

All bids shall remain effective for a period of thirty (30) days from the date of opening at some time during said thirty (30) day period, the successful bidder will be expected to enter into the contract.

- 5. <u>Waiver of irregularities and informalities</u>. Cascade County reserves the right to waive any irregularity or informality in any bid. Further, Cascade County reserves the right to reject any and all bids for any reason.
- 6. <u>Basis of Award</u>. Shall be dependent on the most responsible bid submitted. Consideration will be given, but is not limited to, cash flow, purchase price, delivery date, equipment service guarantees, parts and service availability, parts and service facilities locations, analysis and comparison of equipment specification details, and past experience of Cascade County with similar or related equipment.
- 7. Resident Bidder Preference. Pursuant to Section 18-1-102, Montana Code Annotated, Cascade County will award the contract "to the lowest responsible bidder without regard to residency. However, a resident must be allowed a preference on a contract against the bid of a nonresident if the state or country of the nonresident enforces a preference for residents. The preference must be equal to the preference given in the other state or country."

According to Section 18-1-113, Montana Code Annotated, any bidder seeking a preference shall be required to file, along with the bid, an affidavit, specifying in detail, the basis upon which the bidder claims a preference.

8. <u>Non-Discrimination</u>. The successful bidder shall be expected to abide by a all provisions of state and federal law regarding discrimination. One such provision, in Montana law is Section 49-3-207, Montana Code Annotated, which states <u>Non-Discrimination</u>; "(e)very state or local contract or subcontract for construction of public buildings or for other public work or for goods or services must contain a provision that all hiring must be on the basis of merit and qualifications, and a provision that there may not be discrimination on the basis or race, color

religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

- 9. <u>Laws and Regulations</u>. Each bidder is expected to be familiar with and abide by all laws of the federal, state and local governments regarding their obligations in bidding and performing public contracts.
- 10. <u>Trade-in</u>. Each bidder will be expected to state a value for the four pieces of equipment that Cascade County may wish to trade in, and which will reduce the purchase price. The four items of equipment are a used 2015 160M3 AWD Motor Grader, Serial # N9K00125 (#1418); a 2015 160M3 AWD Motor Grader, Serial # N9K00126 (#1422); a 2016 160M3 AWD Motor Grader, Serial # N9T00213 (#1417) and a 2016 160M3 AWD Motor Grader, Serial # N9T00214 (#1420). The value stated by the bidder for each piece of equipment must be stated separately on the Bid Form. In accepting the bid from the successful bidder, Cascade County may elect to trade any, all or none of the used equipment, and if Cascade County elects to trade in any such item or items, the successful bidder shall receive such equipment at the time of delivery of the motor graders. The successful bidder will be responsible for transporting any such equipment from Cascade County. Any items to be traded in shall be accepted by the bidder "as is", with no warranties and/or representations whatsoever. Upon reasonable advance notice, any bidder may inspect any of the items proposed for trade-in by contacting the Public Works Fleet Superintendent, Bob Wilson at (406) 454-6928. The transfer of any such item of equipment shall be by bill of sale delivered to the successful bidder at the time of delivery of the motor graders.
- 11. <u>Warranty</u>. In order to guarantee the cost of repairs and minimize downtime for Cascade County, all bidders shall include with their bid a total machine warranty, for a period of four (4) years or four thousand (4,000) hours of operation from date of delivery, whichever occurs first.
- 12. <u>Questions</u>. Should any bidder have any questions about the specifications, or any provision or other information contained in the bidder's package, they may direct inquires to Les Payne, Director, Cascade County Public Works, 279 Vaughn S. Frontage Road, Great Falls, MT 59404; phone 406-454-6920. Any clarification information, or any changes made to any information in the bidder's package shall be provided to all potential bidders who have obtained a copy of the specifications from Cascade County.

### BIDDER'S SUBMISSION REQUIREMENTS

Sealed bids shall be submitted by each bidder. Sealed bids must be received by Cascade County no later than 1:00 o'clock p.m., July 31st, 2020, which is the time of commencement of the meeting to open bids. Bidders are expected to abide by the following requirements.

Each bid and accompanying documents shall be submitted in a standard 8 1/2 x 12, or larger manila envelope. The manila envelope shall be sealed, and the following information shall be written or typed on the outside of the envelope: (1) the name, address, and telephone number of the bidder: (2) the words "Bid to Cascade County for Motor Grader(s)".

The following documents shall be included in the manila envelope, in the following order:

- 1. <u>Bid Forms.</u> The Bid Form shall be completely filled out and signed by an authorized agent of the bidding company.
- 2. <u>Bid Bond.</u> A bid bond must be enclosed and must be in the form as specified in this package. The bid bond must be in the amount bid for the motor graders, without deduction for the value bid for any of the proposed trade-in items.
- 3. <u>Warranty Information.</u> All warranty information for the equipment must be included.
- 4. <u>Delivery Date.</u> Bidder must specify delivery date. Delivery shall be F.O.B. Cascade County Shop at Great Falls, Montana. *Time is of the Essence*
- 5. Other Information. Bidders are encouraged, but not required, to include other information about their business and about the equipment in the bid.

### **BID FORM**

The undersigned Bidder hereby covenants and agrees to provide three (3) or more, 2020 or newer, diesel powered, articulated frame all-wheel drive motor graders, as described in the Specifications, for the price stated. The bidder understands that this bid is effective for thirty (30) days from the date of opening. All lines on the Bid Form *must* be completed.

Motor Grader Manufacturer	Model & Year
Net purchase price (without trade) including warran F.O.B. Cascade County Shop at Great Falls, Montan	•
Less trade in for:	
Used 2015 CAT 160M3 Motor Grader, Serial	* N9K00125 \$
Used 2015 CAT 160M3 Motor Grader, Serial	* N9K00126
Used 2016 CAT 160M3 Motor Grader, Serial	* N9T00213
Used 2016 CAT 160M3 Motor Grader, Serial a	* N9T00214
5 Yr / 5,000 Hr total machine warranty	\$
6 Yr / 6,000 Hr total machine warranty	\$
7 Yr / 7,000 Hr total machine warranty	\$
Proposed delivery date:	
NOTE: CASCADE COUNTY RESERVES THE RIGHT TO KEEL PROPOSED TRADE-IN, AND IN SUCH EVENT, THE BALANCE AMOUNT, OR AMOUNTS. THE BID BOND SUBMITTED WITH AMOUNT BID FOR THE MOTOR GRADER, AND MAY NOT BE PROPOSED EQUIPMENT FOR TRADE-IN.  Bidder's Name	E AMOUNT WILL BE INCRESED IN A LIKE H THIS FORM SHALL BE BASED ON THE FULL E REBUCED FOR THE VALUE OF ANY OF THE
Bidder's Address	
Bidder's Phone No.	
Bidder's Sig	nature

# AGREEMENT

THIS AGREEMENT is made this day of,2020, by
and between Cascade County, and
hereinafter referred to as the seller, and is meant to describe the terms and conditions for the sale
by seller and the purchase over time by Cascade County of, diesel
powered, articulated frame all-wheel drive motor graders as described in the specifications.
THE PARTIES COVENANT AND AGREE AS FOLLOWS:
1. <u>Item Purchased.</u> The seller agrees to sell and provide, and Cascade County agrees
to purchase the certain motor graders with associated equipment, for the sale price of
\$
The specific equipment to be purchased over time is more specifically described as follows:
2. <u>Payment Terms.</u> Cascade County shall make annual payments for the equipment in the amount of \$ to the seller. The first payment will be made within 30 days of delivery by the seller, and all subsequent payments shall be due annually on or before the anniversary date of the first payment. The seller shall be required annually to submit a claim form pursuant to Cascade County policy, with the claim form having been submitted prior the 25 <sup>th</sup> day of the month prior to the month in which the payment is due.
3. <u>Delivery Date.</u> Time is of the essence in this agreement. The seller shall deliver the motor graders and associated equipment to Cascade County no later than If full delivery is not made by such date, the parties hereby agree that Cascade County shall be entitled to liquidated damages in the amount of \$50.00 for
each day past such deliver date until full delivery takes place. Cascade County may choose to waive its receipt of liquidated damages.

- 4. <u>Contract Documents.</u> The parties understand and agree that there are various documents which are an integral part of this contract, and by this reference are fully incorporated herein: to include all of the documents which are part of the Bidder's Package.
- 5. <u>Insurance.</u> Delivery shall be F.O.B. Cascade County Shop at Great Falls, Montana. The seller shall be responsible for insuring the motor graders until they are both delivered and off- loaded to Cascade County. Cascade County shall not be responsible for loss until such time, and then upon unloading the equipment the obligation for insurance shall be the responsibility of Cascade County.
- 6. <u>Venue for Disputes.</u> Should any dispute arise regarding this contract, proper venue shall be in the District Court of the Eighth Judicial District, in and for Cascade County, Montana.

Successful Bidder

#### **SPECIFICATIONS**

Please describe all warranties, guarantees, and extended coverage's of the motor graders, including an extended service plan.

Pursuant to the Invitation to Bidders, requesting bids for three (3) or more, 2020 or newer, diesel powered, articulated frame, tandem drive motor graders, the following minimum requirements, or substantially similar equivalents, shall be met:

- A. Motor grader(s) shall meet **OSHA** requirements and specifications on the date of the bid opening.
- B. No bid will be considered unless accompanied by a bid bond, bank draft, money order, or certified or cashier's check, in the amount of not less than ten percent (10%) of the total amount for the total number of machines bid, as further described in paragraph 3 of the General Information for Bidders in the Bidder's Package.
- C. Delivery shall be F.O.B. Cascade County Public Works Department, 279 Vaughn South Frontage Road, Great Falls, Montana.
- D. Upon delivery, the successful bidder shall include all operating, service, parts and technical repair manuals. One complete set of service manuals total will be required for the grader(s).
- E. Bidder must specify delivery date.
- F. All machines shall be the current advertised and produced model, with all the latest changes and features offered as standard, whether or not called for in the bid specifications.

PLEASE INDICATE IN THE FOLLOWING IF THE MACHINES OFFERED CAN MEET THE FOLLOWING MINIMUM DESIRED CONFIGURATIONS. ANY "NO" MUST BE CLARIFIED ON A SEPARATE SHEET IF THE BIDDER DESIRES SUPPORT FOR AND ALTERNATE OR SUBSTANTIALLY SIMILAR SPECIFICATION.

	_ N _ N	Machine shall be designed and built by the manufacturer.  Base Machine Weight shall not be less than 40,908 lbs (18,555 kg). Weight shall include standard machine configuration, lubricants, coolants, full fuel tank and operator of 200 lbs (91 kg).
	_ N _ N	Machine height to top of the cab shall not exceed 130 in (3,308 mm).  Machine length from the front outside edge tire to end of tow hitch shall not be less than 351 in (8,912 mm).
/	_ N	Machine Wheel Base (distance from front axle to mid tandem) shall not be greater than 241 in (6,126 mm).

Y	N	The rear frame shall have two box section channels with an integrated bumper as standard.
V	N	A toolbox shall be provided.
	IN	Machine shall have vandal protection standard including locks for cab doors, engine side shields (4), top
T	IN	tank radiator access door, engine coolant surge tank, hydraulic reservoir cap, fuel tank cap and tool box.
Y	N	Machine length from counterweight to ripper shall not exceed 399 in (10,136 mm).
		ENGINE
Y	N	Engine shall be designed and built by the manufacturer.
Y	N	Engine shall be a turbo-charged, direct injection, four stroke, 6-cylinder diesel engine.
Y	N	Engine shall be certified EPA Tier 4 Final and European Union Stage IV
Y	N	Engine shall be electronically controlled for more efficient fuel injection and fuel burn.
	N	Engine shall achieve rated power requirement with engine displacement not less than 9.3L (568 in <sup>3</sup> ) for better performance and fuel economy.
Y	N	Engine shall develop as standard while AWD is ON a rated net flywheel of at least 241 HP (180 kW) in 1st gear, 262 HP (195 kW) in 2nd gear, 267 HP (199 kW) in 3rd gear, 272 HP (203 kW) in 4th gear, and 293 HP (219 kW) in gears 5 through 8.
Y	N	Engine will increase its low idle speed to 1,000 rpm when the battery voltage is below 24.5 volts for more than 5 minutes to ensure adequate system voltage and battery reliability.
Y	N	Altitude deration will not occur at altitudes less than 10,000 ft (3048 m). The deration rate above 10,000 ft (3048 m) shall be 1.5% per 1000 ft (305 m).
Y	N	Peak engine power shall not be achieved at an engine speed greater than 1800 rpm.
Y	N	Rated engine power shall not be achieved at an engine speed greater than 2000 rpm.
Y	N	Engine will have a minimum torque rise of 47% from 2000 rpm to peak torque following SAE J1349 (net power with max fan).
Y	N	Engine enclosure and daily service points shall be accessible from ground level and grouped on the left side of the machine.
Y	N	Engine fan shall automatically adjust fan speed via a variable hydraulic fan pump to meet engine cooling requirements thus reducing demand on the engine, putting more horsepower to the ground, reducing noise, improving fuel economy, and reducing heat.
Y	N	Engine shall allow for at least 500 hours of operation between oil changes.
Y	N	An engine precleaner designed to handle large debris, including snow shall be provided.
Y	N	Engine compartment doors shall be lockable without the use of external locks.
Y	N	Engine shall automatically lower engine torque and alert the operator if critical conditions are detected.
Y	N	Engine shall have an air-to-air after cooler for superior engine performance.
Y	N	Engine oil cooler shall be a water to oil shell and tube cooler system.
Y	N	The Machine shall have a 12,000 hour coolant interval from the factory.
Y	N	The cooling package air intake shall have 2.8 mm perforated inlet screen.
	N	The charged air cooler (ATAAC) shall have 6 fins per inch.
	N	An engine coolant heater shall be provided to assist in cold weather starting.
Υ	N	DEF tank reservoir shall have a heater to thaw DEF fluid
Y	N	DEF lines should be heated to prevent freezing during extremely cold ambient conditions.

		POWERTRAIN/TRANSMISSION
Y	N	Transmission shall be designed and built by the machine manufacturer.
Y	N	Transmission shall be a direct drive, power shift, countershaft type.
Y	N	Transmission shall be equipped with built-in self-diagnostic capability.
Y	N	Transmission shall have no less than 8 forward speeds and 6 reverse speeds (for added safety).
Y	N	Transmission shall have 5 working gears between 0-10.8 mph (0-17.4 km/h), for dirt applications.
Y	N	Transmission shall be isolated/resilient mounted to reduce sound and vibration.
Y	N	A controlled throttle shifting system shall be standard to smooth directional gear changes without use of the inching pedal.
Y	N	Electronic Throttle Control (cruise control) shall be standard and shall be controlled by a push button, located on a 3-axis joystick as standard on the right joystick control for resuming and decreasing throttle set.
Y	N	Electronic Throttle Control modes, set and accelerate functions, shall be located on the right control column for easy access.
Y	N	A load compensating system for the transmission shall be standard to ensure consistent shift quality in all applications.
Y	N	Automatic Differential Lock/Unlock feature shall be standard and shall not have speed, shuttle shifting or tandem spinning restrictions for engaging/disengaging. System must be load-sensing for optimal performance
Y	N	Automatic mode shall not be overridden via manual intervention for optimal performance and to prevent unintended differential engagement
Y	N	Differential Lock/Unlock shall be electro-hydraulically controlled, as a standard feature.
Y	N	Differential Lock/Unlock shall be a multi-disc design.
Y	N	Final drive shall be a planetary design.
Y	N	The rear axle shall be a bolt-on modular design offering easy access to differential components, improving serviceability and contamination control.
Y	N	The total surface area of all the transmission clutch packs shall not be less than 1831 in <sup>2</sup> (11,812cm <sup>2</sup> ).
Y	N	Diameter at the output end of the transmission shaft shall be no less than 2.29 in (58.1 mm).
Y	N	Machine shall be equipped with an electronic inching pedal for improved modulation and machine control.
Y	N	Machine shall be equipped with electronic over-speed protection to prevent the engine and transmission from over speeding, as a standard feature.
Υ	N	Machine shall have no drive shafts that cross over the articulation hitch.
Y	N	An autoshift transmission option shall be provided on all forward and reverse gears.
		STEERING & IMPLEMENT CONTROLS
Y	N	Steering wheel shall not be required to operate machine.
Y	N	Joystick Steering capabilities shall be ISO 5010:1992.
Y	N	Machine shall employ a friction pack style steering mechanism (not spring-loaded), utilizing the follow steer concept.
Y	N	
		The left 3-axis joystick shall control wheel lean with individual left and right wheel lean buttons as standard.

Y	N	Primary steering shall be achieved via a left-hand, multifunction, 3-axis joystick as standard, using an intuitive steering control system that automatically adjusts steering sensitivity as machine ground speed increases.
Y	N	Articulation to the right or left shall be achieved by a multifunction, 3-axis left joystick with the twist of such
		to the right or left by the left-hand, multifunction, 3-axis joystick.
Y	N	An articulation return-to-center button on the left-hand, multifunction, 3-axis joystick shall return the machine to a straight frame position from ANY articulation angle with the touch of a single button.
Y	N	The right 3 axis joystick shall primarily control the Drawbar, Circle, and Moldboard.
Y	N	Machine, Drawbar, Circle, and Moldboard shall be control shall be achieved via a right hand multifunction, 3-axis, joystick, including moldboard slide and tip, drawbar center shift through a 4 way hat switch and circle turn by a left or right twist intuitively.
Y	N	Blade lift cylinders shall be individually controlled by the multifunction, 3 axis joysticks; Lift and drop of cylinders shall be achieved by the forward and back motion of the respective joystick. Forward (left joystick) lowers left lift cylinder, back(left joystick)raises the left lift cylinder, forward(right joystick) lowers the right right lift cylinder, back(right joystick) raises the right lift cylinder.
Y	N	Joystick controls shall be mounted to electronically adjustable pedestals, which are hard mounted to the cab floor, independent of the operator seat.
Y	N	Secondary steering shall have a primary and secondary power supply in the event the primary source is lost.
Y	N	Transmission direction control shall be a 3-position rocker switch for selecting forward, neutral, and reverse incorporated into a single, 3-axis, multi-function, left-hand joystick control.
Y	N	Transmission gear selection shall be controlled by dual push buttons for up shifting and downshifting and shall be incorporated into a single, 3-axis, multi-function, left-hand joystick control.
Y	N	Manual Differential Lock/Unlock shall be operator controlled, via a push-button, located on a single, 3-axis, multi-function, right-hand joystick control.
Y Y	N N	The machine shall have two redundant articulation sensors.  Two redundant sensors shall be standard in the steering cylinders (one in each).
Y	N	Three redundant sensors shall be provided in the steering joystick for additional safety.
		BRAKES
Υ	N	
Υ	N	
Y	N	Two separate left and right hydraulic brake accumulators shall be standard for safety.
Y	N	Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free, and integrated into the transmission. Park brake shall not be externally located.
Y	N	Parking brake shall be serviceable without removing the transmission.
Y	N	Service brakes shall be multi-disc, oil-cooled and completely sealed; they will also provide access to check and determine brake wear without removing or disassembling the brake assembly

Y	N	Service brake disc surfaces shall be grooved and carry oil between discs and plates with brakes fully applied.
Y	N	Service brakes shall be hydraulically actuated, utilizing dual independent brake circuits.
V	N	Brakes shall be continuously pressurized, filtered, oil cooled.
	N	
Y	N	·
Y	N	Brake line protection, including tandem walkways and hydraulic brake line guarding, shall be required to prevent line damage.
Y	N	Service brakes shall provide a minimum of 620 in <sup>2</sup> (4003 cm <sup>2</sup> ) of total friction material surface area used at each of the four tandem wheels to eliminate braking loads on the power train.
		HYDRAULIC SYSTEM
Y	N	A standard triple-redundant hydraulic relief system shall protect machine hydraulic components.
Y	N	Hydraulic implement pump shall produce between 0 and 55.7 gallon/min (210 L/min) of oil flow at 1800 RPM.
Y	N	Hydraulics system shall be a closed center, load sensing type with a variable displacement, axial piston-type pump.
Y	N	Hydraulic system shall be fully sealed, using Duo-cone and O-ring face seals to prevent leaks, contamination, and spillage.
	N	
Y	N	The maximum hydraulic system pressure shall be no less than 3,500 psi (24,150 kPa).
Y	N	Implement valves shall be electro-hydraulic, designed and built by the machine manufacturer.
Y	N	Implement pump shall not be mounted under cab floor, minimizing sound and vibration.
Y	N	Implement valves shall be proportional priority pressure compensating for consistent response when multi- functioning any combination of implement controls and independent of engine speed.
Y	N	Implement pump shall be solely dedicated to implement controls and not shared with any other components.
Y	N	Lock valves shall be integrated into the main implement valve to prevent cylinder drift.
Y	N	The hydraulic stand-by pressure shall be no more than 609 psi (4200 kPa).
Y	N	There shall be a provision to install up to 15 modulating hydraulic valves, controlled by two multifunction, 3 axis joystick controls and auxiliary controls inside the cab.
Y	N	Hydraulic valves shall not be mounted under the cab floor, minimizing sound and vibration.
Y	N	Left and right blade lift cylinders shall have independent float capability, actuated by two multifunction, 3-axis joystick controls inside the cab, as a standard feature.
Y	N	0W Hydraulic Oil shall be provided. No Exception
Y	N	Two (2) hydraulic valves for the snow wing and two (2) hydraulic valve for the front lift group shall be provided.
Y	N	Hydraulic system shall have a separate oil tank solely dedicated to the implement pump.

		FRONT AXLE AND TANDEMS
Y	N	Front axle oscillation shall be no less than 32 degrees total, per side 16 degrees up and 16 degrees down.
Y	N	Front axle shall be an arched design for maximum ground clearance.
Y	N	Wheel spindle shall be a "live" spindle design and rotate inside a sealed (with Duo-Cone seals) compartment with lightweight oil for lubrication of the bearings.
Y	N	Front spindle shall be heat induction hardened.
Y	N	Front wheel spindle bearings shall be a double-tapered design with the larger diameter bearing mounted closest to the centerline of the front tire.
Y	N	Front wheel spindle maintenance intervals shall be no less than 2000 hrs.
	N	Front wheel steering angle shall be no less than 50.0 degrees left or right.
	N	
Y	N	Machine minimum turning radius shall not exceed 25 ft. 7in. (7.8 m) using front steering, full articulation, full wheel lean and unlocked differential.
Y	N	Distance between center of tandem wheels shall be no greater than 60 in (1523 mm) for optimum clearance and mobility.
Y	N	Tandem chain pitch shall not be less than 2.0 in (50.8 mm).
Y	N	Tandems shall be capable of oscillating 15 degrees front tandem up and 25 degrees front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure.
Y	N	Electronic and mechanical steering stops located at each wheel and steering cylinder relief valves shall be present to prevent steering system damage during normal operation.
Y	N	Steering tie rod ends shall be heat induction hardened.
Y	N	Machine shall provide 2 steering cylinders for maximum steering force.
Y	N	When equipped with a ripper, the machine shall have a minimum ramp angle of 15.9 degrees.
Y	N	TIRES AND RIMS  17.5R 25 MX XSNO+ 1* MP tires mounted on 14" x 25" multi-piece rims shall be provided.
Y	N	OPERATORS STATION A 42,075 BTU/h (12.3 kW) heater shall have an integral pressurizer and four-speed fan along with A/C.
Y	N	Cab shall have angled floor design allowing direct visibility to moldboard.
Y	N	Seat shall be a cloth-covered suspension seat with 3 in (76 mm) retractable seat belts, with adjustments for fore-aft position, seat height, seat back angle, thigh support, and lumbar support.
Y	N	An enclosed cab with ROPS (Rollover Protective Structure) according to ISO 3471: 1986-1997shall be provided.
V	N	Cah doors shall have a hold-onen clash with a ground-level release in addition to a release in the cah

	_ N	
Y	N	Cab shall have fixed front window of laminated glass with intermittent wiper.
	N	
Y	_ N	Machine shall have no less than 17 adjustable vents, positioned to direct air to front windows and operator
Y	N	Radio ready arrangement including 24V to 12V converter, two speakers, antenna and wiring shall be provided.
Y	N	An instrument cluster shall be provided that includes a speedometer, tachometer, coolant temperature, fue and articulation angle gauge.
Y	N	Operator cab fresh air-filter shall be accessible for clean out and replacement, from outside of the cab at ground level.
Y	N	A real-time information system shall monitor all system data and alert the operator of any faults through a digital text display. This performance and diagnostic information system shall be programmable for multiple languages.
Y	N	Left and right side cab doors shall be provided.
	N	
Y	N	Digital machine hour meter shall be provided.
Y	_ N	An electronic message system shall provide real-time machine performance and diagnostic data.
Y	N	The forward visibility shall be continuous and unobstructed glass from roofline to floor providing visibility of the blade, heel and toe, back of the cutting edge, and front tires.
Υ	N	Access to cab shall be three anti-skid steps.
	N	
Υ	N	Window washer fluid bottle refill spout shall be located external of the cab.
	_ N	
	N	
Y	_ N	Auxiliary controls shall be a finger-tip control type and located beside the right-hand joystick control.
Y	N	An auxiliary, 2-axis joystick shall be available for control of a snow wing.
Y	N	Integrated display and rear vision camera shall be provided with capability to view at all times without interfering with the gauge and diagnostic display.
Y	N	A rear sun shade shall be available.
Y	N	
Y	N	A machine security system shall be provided to electronically code keys selected by the user to limit usage by individuals or by time parameters.
Υ	N	
Y Y Y Y	N	A heated or both heated/ventilated seat shall be provided.
Y	N	Machine shall have integrated Cross-Slope system provided from the factory.
Y	N	Machine shall have an integrated cross slope system with cross coupling software to prevent automatic response lag (or saw-toothing) in order to maintain consistency and ensure accuracy.
Y	N	Machine shall have a display for cross slope information that is separate from critical machine information such as engine RPM, ground speed and fluid temperature monitoring to ensure safe operation.
Y	N	Machine shall include an integrated technology system that detects and reduces machine bounce to improve grading precision. When throttle control is engaged, engine speed automatically decreases at 15 percent intervals when machine bounce is detected.
Y	N	Machine shall include an integrated technology system to allow the motor grader to articulate automatically while steering in tight spaces or around curves, obstacles, and turnarounds.

		CIRCLE & MOLDBOARD
Y	N	Drawbar, circle, and moldboard shall be controlled with a maximum of two multifunction, 3-axis joysticks, as standard.
Y	N	Drawbar wear strips shall be replaceable drop-in inserts made from nylon composite material, replaceable and adjustable from the top of the drawbar plate via removable cover plates.
Y	N	The drawbar shall feature welded protective wear plates to prevent lift group contact with the primary drawbar structure.
Y	N	The standard moldboard shall be at least 14 ft (4267 mm) long, 27 in (686 mm) high and no less than 1 in (25 mm) thick.
Y	N	Moldboard shall have a bank slope angle capability of at least 90 degrees to both sides.
Y	N	Moldboard side-shift cylinder shall be installed on the left-hand side to prevent snow wing interference with the cylinder rod.
Y	N	Moldboard shall have no less than 16.3 in (413 mm) arc radius (blade curvature) for optimum productivity.
Y	N	The moldboard retention system shall have no more than two retention points located on the left and right side of the moldboard. The surface area shall not be less than 50408 mm² (78.13 in²).
Y	N	Moldboard shall have a hydraulic tip control through a range of 40 degrees fore and 5 degrees aft.
Y	N	Moldboard wear strips shall be adjusted with lock screws, providing shim-less adjustment capability both vertical & horizontal.
Y	N	The moldboard shall be pre-stressed during manufacturing for superior strength and durability.
Y	N	Moldboard slide rails shall be constructed of a heat-treated, high carbon steel and have replaceable bronze alloy wear inserts on top and bottom.
Y	N	Circle shall be a single piece, rolled-ring forging with raised wear surfaces on the top and bottom.
Y	N	Circle shall be rotated by a hydraulically driven motor (pinion gear) with a minimum circle pinion torque capability of 44253 ft-lb (60,000 N-m).
Y	N	Circle teeth contact surfaces shall be induction-hardened on the front 240 degrees of the circle.
Y	N	Blade lift and center shift cylinders shall have replaceable bronze-alloy wear inserts in the ball sockets with removable shims to insure the ability to remove free play throughout the useful wear insert life.

Y\_\_\_\_ N\_\_\_ A seatbelt indicator sensor and light shall be provided

Y	N	The lift cylinder casting shall be welded to the front frame for added strength and structural integrity.
Y	_ N	The standard mounting hardware for cutting edges and end bits shall be 3/4 in (19 mm).
Y Y	N N	All 7 Link Bar positions have replaceable bushings. Linkbar pin shall be separate from pin pulling mechanism for easier service and lower O&O costs.
Y	N	The draft frame pivot connection shall have a single ball stud with grease zerk. Ball stud shall be bolt-on, shim and adjustable to allow for quick and easy field serviceable design.
Y	N	There shall be 3 side shift anchor positions shall be provided for extended reach capability as standard.
Y	_ N	Pinion Gear shall be separate from the Pinion Shaft to allow for a quick and easy serviceable design.
Y Y Y	N N N	Circle outside diameter shall be no less than 61.1 in (1553 mm).  Throat clearance with standard moldboard shall be at least 166 mm.  There will be no more than 6 replaceable wear inserts between the circle and drawbar providing at least 163 in² (1051 cm²) of wear surface area.  Blade lift accumulators shall be provided, protecting cutting edge and other components from damage from shock loads.
Y	N	ELECTRICAL  Machine shall have a 200 AH, 1400 CCA heavy-duty batteries.
Y	N	Machine shall have a minimum 150-amp alternator at 24 volts provided which is brushless for increased life and durability.
Y	_ N	Six 3 x 3 in (76 x 76 mm) halogen mounted cab lights shall be provided.
Y	_ N	Starting system shall be a 24V direct electric type.
Y	_ N	LED white reversing lamps and LED stop lamps shall be provided.
Υ	N	Electrical system shall have a master disconnect switch with a removable key (in addition to the ignition switch), accessible from the ground level.
Y	_ N	All core machine systems shall be electronically connected, optimizing performance and preventing machine damage.
Y	_ N	All wiring shall be arranged and located so as to facilitate regular visual inspections, not be in contact with hot surfaces and not routed with other services lines (e.g. fuel, oil, etc.).
Y	N	All harnesses / cabling are secured with clipping clamps providing a gap between the conduit/harness and the mounting surface preventing material build-up.
Y	_ N	Power must remain provided upon key off to purge DEF system lines and protect components.
Y	N	There will be 2 (3 x 3 in) (76 x 76 mm) halogen mounted on the right-hand side of car roof bar to illuminate a snow wing shall be provided.
Y	N	There will be 2 (3 x 3 in )(76 x 76 mm) halogen heel work lamps mounted underneath the cab shall be provided.
Y	_ N	There will be 2 (3 x 3 in) (76 x 76 mm) halogen mid-frame toe lamps shall be provided to illuminate moldboard and surrounding area as an option.

Y	N	There will be 2 (3 x 3 in) (76 x 76 mm) halogen ripper work lamps shall be provided.				
Υ	_ N	High and low bar headlights with front turn signals shall be provided.				
		An amber LED high-speed strobe beacon shall be provided.				
	N					
		SERVICEABILITY				
Y	N	Access to engine will be open from both sides with hinged engine side shields and full access service doors.				
Y	N	Machine shall have a lockable swing-out cooling fan housing featuring a latch-style mechanism (shall not be of a bolted design), allowing easy access to cores. Ability to open/close shall be ground level accessible, eliminating need to climb on machine.				
	N					
Y	N	Hydraulic tank site gauge shall be readable from the ground.				
Y	N	Hydraulic tank filter shall be a cartridge style filter providing a separate filter element, housing, and drain valve for quick and clean servicing.				
Y	N	Ability for ground level fueling shall be provided.				
Y	N	Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports.				
Y	N	A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters.				
Y	N	Machine shall provide 3 points of contact on all areas of the machine, for mounting and dismounting.				
Y	N	The articulation joint shall have mechanical locking device to prevent frame articulation while servicing or transporting machine.				
Y	N	Left and right side tandem case assemblies shall be covered with punched steel plate to provide an adequate platform for standing and walking.				
Y	N	Engine oil filter shall be a 500 hour, vertical spin-on				
Y	N N	Engine primary and final fuel filters shall have 500 hour service replacement interval.				
Y	N	Engine shall have primary fuel filter with fuel water separator and electronic sensor, quick release dual stage filter and primer pump.				
Y	N	The centralized lube bank shall be at the articulation joint to give access to difficult zerk fittings.				
Y	N	Transmission filter restriction indicator shall be displayed in the cab.				
Y	N	Lock out Tag out capabilities shall be provided standard and increase the safety levels during down time. This ensures that an energy isolating device and the machine which are being worked on and cannot be approved.				
Y	N	operated  DEF tank fill shall be located on the same side as the fuel tank fill, and be easily accessible from the ground				
Υ	N	A guard shall be provided to protect the machine's transmission from debris.				
Y	N	An engine compartment light shall be provided				
		MINIMUM SERVICE FILL CAPACITIES				
Y	N	Standard fuel tank capacity shall not be less than 104 gallons (394 L).				
Y	N	Standard cooling system capacity shall not be less than 15 gallons (57 L).				
Y	N	Standard hydraulic tank capacity shall not be less than 16.9 gallons (64 L).				
Y	N	Standard engine oil capacity shall not be less than 7.9 gallons (30 L).				
Υ	N	Standard tandem housing canacity shall not be less than 22.9 gallons (87.0 L) each				

Y	N	Standard front wheel spindle bearing housing capacity shall not be less than 0.13 gallons (0.5 L)
Y Y	N N	Standard circle drive housing capacity shall not be less than 1.8 gallons (7 L) Standard DEF tank capacity shall not be less than 5.8 gallons (22L).
Y	N	SAFETY AND ENVIRONMENTAL A circle drive slip clutch shall be provided to reduce horizontal moldboard impact damage.
Y	N	Black glare-reducing paint shall be used on the front frame and engine enclosure to decrease glare from other equipment lights and reflection from the sun and snow.
Y	N	Operator not present monitoring system will lockout implements, shall not allow gear shift out of neutral, and lock parking brake if system detects operator not present for increased safety.
Y	N	Hydraulic implement lockout shall be achieved by actuating a single electrical switch within the operator station.
Y	_ N	An external emergency kill switch shall be available for ground level engine shut down.
Y	N	Secondary, electric steering pump with redundant wiring shall be provided as a backup to the primary implement hydraulic pump.
Y	N	Machine shall have laminated glass for the front windows and doors, to protect the operator from shattered glass.
Y	N	Machine shall provide dual exits allowing for emergency egress should one side become obstructed.
Y	N	Electrical system shall have a master disconnect switch with a removable key and lock for added safety.(in addition to the ignition switch).
Y	N	Machine shall have a steering software system shall automatically reduce steering sensitivity as the ground speed increases.
Y	N	•
Y	N	Environmentally friendly drain valves shall be provided for the hydraulic oil, engine oil, engine coolant, transmission, differential and fuel tank.
Y	N	Cooling fan shall have both a shroud and rear grill for protection during service.
Y	N	Machine shall allow cab interior and exterior lights to remain on separate from ignition switch, for safe exit of the machine during night operation.
Y	N	Engine and transmission shall be rubber isolation mounted to reduce noise and vibration.
Y	N	Drop down rear lights (stop/turn signal lights) shall be available to span the profile of the machine for increased safety
Y	N	Two outside mounted heated mirrors shall be provided.
V	N.I	OPTIONS
Υ	IN	Rear ripper shall have five ripper shank holders with three ripper shanks and nine scarifier shank holders with nine scarifier shanks. Ripper shall have float function
Y	N	Rear ripper shall have a working penetration of maximum 16.8 in (428 mm) and a penetration force of at least 20,693 lb (9386 kg).
Y	N	Front & rear fenders shall meet ISO-3457 requirements and shall not interfere with the ability to fully open any cab/engine enclosure or service access doors.

Y v	N	All core machine systems shall be electronically connected optimizing performance and preventing machine damage.  Machine shall baye an engine coalant circuiting heater provided.		
т	N N	Machine shall have an engine coolant circuiting heater provided.  Machine shall have no drive shafts that cross over the articulation hitch.		
YN		An integrated communication tool providing flow of vital machine data and location shall be provided. This system shall give automatic updates on machine parameters such as machine hours, machine condition, location, fault codes and alarms.		
Y	N	Machine shall have a transmission solenoid valve guard provided.		
Y	N	Rear vision camera with integrated display and wiring shall be provided.		
Y	N	Any machine bid must accept the counties existing Balderson style front lift group.		
YN		Additional hydraulic lines from the ripper valve to the back of the machine shall be provided. A ripper attachment accumulator, much like the accumulators on the blade lift, shall be installed to protect the rippe mounted components and operator from shock load.		
		ALL WHEEL DRIVE SYSTEM		
Y	N	A steering compensation system shall enable "power turn" by adjusting the outside front tire speed up to 50% faster than the inside tire.		
Y	N	The grader must have the capability to disengage the transmission and provide hydraulic power to the from wheels only.		
Y	N	The All-Wheel Drive arrangement utilizes dedicated left and right pumps for precise hydraulic controls.		
Y	N	When AWD is engaged, flywheel horsepower is automatically increased up to an additional 27KW (37 hp) compared to the rear drive model.		
Y	N	All Wheel Drive system shall provide a hydrostatic front wheel drive only mode neutralizing the transmission for precise low-speed performance. The ground speed shall be infinitely variable between 0		

LIST EXPLANATIONS FOR ANY "NO" ANSWERS BELOW IF CONSIDERATION IS DESIRED.

### MACHINE FUEL CONSUMPTION DATA

Fuel consumption	al/hr.
(Please do not enter in a range)	

Machine fuel consumption gal/hour figure <u>must be backed up by providing</u> written regional fuel consumption results data from a minimum of 25 like <u>machines</u>. Data must be actual numbers / results retrieved from a minimum of 25 like machines via a gps or cellular data link. Data will be based on average fuel of consumption at least one-hundred like machines. Reports must indicate fuel consumption at idol and while machine is operating under a full load. Vendors must provide a copy of the data used.

#### WARRANTY & AVAILABILITY GUARANTEE

In order to guarantee the cost of repairs and minimize downtime for the County, all bidders shall include with their bid:

A total machine warranty, including parts and labor for required repairs, for a period of four (4) years four thousand (4,000) hours, whichever occurs first, from date of delivery. Warranty repairs will be provided during regular working hours. If the County requests that work be done outside of regular working hours, which results in overtime, the County will pay the differential between regular time and overtime wage. Lodging, meals, travel time, parts, freight and any transportation of units between County and seller will be at seller's expense.

County will provide seller with Scheduled Oil Sampling for analysis from date of delivery. Seller will provide the oil sample bottles & the expense of the processing the oil samples.

Annual machine inspections and adjustments, as prescribed in the maintenance guides, shall be performed in the field (County's location), unless prior more convenient arrangements are made.

98% Guaranteed Machine Availability. Bidder guarantees that the machine shall be operable and available for use by the County for at least 98% of the County's work year, which shall be calculated based on a 2080 hour work year. After any continuous downtime, which exceeds 20 work week hours, Seller shall provide County with a replacement machine that is comparable to the motor grader purchased under this bid proposal at no cost to the County. If seller fails to provide County with a comparable replacement machine, County shall charge seller with an hourly assessment of \$250.00 per hour for all lost work hours beyond the first 20 work hours lost.

County shall make the machines available for repairs and inspection upon reasonable request and notice by the successful bidder.

SIGNED:		FIRM NAME:	
DATE:		ADDRESS:	
SUBSCRIB	ED AND SWORN TO	O BEFORE ME	
THIS	DAY OF	,20	
NOTARY P	PUBLIC		
Print name:			
My commiss	sion expires:		

### AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS

## **AFFIDAVIT OF NON-COLLUSION**

I hereby swear (or affirm) under the penalty; for perjury;

- (1) That I am the bidder (if bidder is an individual), a partner in the bidder (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
- (2) That the attached bid or bids have been arrived at by the bidder independently, and have been submitted without collusion with, and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid, designed to limit independent bidding or competition;
- (3) That the contents of the bid or bids have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids, and will not be communicated to any such person prior to the official opening of the bid or bids; and \
- (4) That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

SIGNED:_		FIRM NAME:	
DATE:		ADDRESS:	
SUBSCRI	BED AND SWORN TO	BEFORE ME	
THIS	DAY OF	,20	
NOTARY			
Print name:	:		
My commis	ssion expires:	_	
	S E.I NUMBER:		
(Number u	ised on Employer's Qua	terly Federal Tax Return, U.S. Treasury Department	,
Form 941)			

### **BIDDER'S CHECKLIST**

### Please be sure you have completed the following prior to submitting your bid:

- 1. Read and understood the specifications.
- 2. Enclosed all documents listed in the Bidder's Submission Requirements (p.7 of Bid Package).
- 3. Made yourself familiar with any State laws that pertain to this bid.
- 4. Asked any questions, and received answers, regarding the bid procedure, specifications, or general information.

\*\*\* <u>NOTE:</u> Any bid that is not properly addressed (including bidders phone no.), or that is delivered past the date and time indicated on the invitation to bid, will be invalid and <u>will not be opened or considered.\*\*\*</u>